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# SOIL CONSERVATION SERVICE NEWS

REGION 4

COMPRISING STATES OF LOUISIANA, ARKANSAS  
AND TEXAS, EXCEPT HIGH PLAINS AREA

REGIONAL OFFICE--FORT WORTH, TEXAS

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## ARKANSAS LEADS THE NATION IN DISTRICT PROGRESS

The state of Arkansas, with 10 soil conservation districts in operation, has twice as many districts as any one of the 22 states in the nation that have adopted soil conservation districts laws!

Secretary of Agriculture Henry A. Wallace announced early this month that 39 soil conservation districts, covering a total land area of more than 19,000,000 acres, have been organized by groups of farmers in 11 of the 22 states which have enacted soil conservation districts laws.

The 10 districts in operation in Arkansas embrace 4,078,000 acres, 12 percent of the state's land area. There are 35,190 farms located in the 10 districts. A total of 50 petitions have been received by the Arkansas State Soil Conservation Committee from groups of farmers requesting the formation of soil conservation districts. From the 50 petitions the state committee set up 39 proposed districts, including the 10 that have already been established. The total farm acreage represented in the 50 petitions is 13,043,000 acres, 40 percent of the state's total land area.

The tenth district to begin operation in Arkansas is the Central Valleys district composed of 1,275,000 acres on 12,750 farms located in Van Buren, Cleburne, Faulkner, Conway and Pope counties. The program and plan of work for this district was approved by Dr. H. H. Bennett, chief of the Soil Conservation Service, in Washington last month, and a memorandum of agreement was entered into setting the district operations in motion. J. E. Critz was selected to serve as the district leader, and technicians were moved into the

district to confer with district supervisors and get conservation work started. Following the preliminary surveys, soils technicians of the Service began mapping operations on the four small interior watersheds which have been set up by the supervisors as priority areas. The farm planning groups are following closely behind the soils men.

J. W. Sargent, state coordinator, announced that approximately 3,000 farmers in the 10 districts already have applied to their respective district supervisors for assistance in applying conservation practices on their lands. Conservation surveys are progressing rapidly in all districts. Planning groups following the soils men have planned approximately 175 farms. Approximately 160 individual farmers already have entered into cooperative agreements with the district supervisors, and been granted technical assistance from the Soil Conservation Service to aid them in getting conservation work underway on their farms.

In announcing the progress of district organization in the 22 states, Secretary Wallace said: "These districts are local organizations established by farmers for the express purpose of dealing with conservation problems in certain well defined local areas. Each district, as a sub-division of the state, has authority to formulate and carry forward an active soil conservation work program and to seek state and federal assistance."

In general, state laws under which soil conservation districts are now being organized, were patterned after a model act forwarded by President Roosevelt to the governors of all states in February 1937. At that time the President urged the passage of state soil conservation legislation to "supplement the Federal programs, and safeguard their results."

In his letter to the governors President Roosevelt pointed out that demonstration projects conducted by the Soil Conservation Service were not adequate in themselves to solve the national problem. He said: "Such work can only point the way. We are confronted with the fact that, for the problem to be adequately dealt with, the erodible land in every watershed must be brought under some form of control."

Usually the state soil conservation districts laws provide that any group of 25 or more farmers in a watershed or other natural land area may petition a state soil conservation committee for the organization of a district. The committee holds public hearings, defines boundaries of the proposed district, and then submits the question of district organization to a referendum of all land occupants in the area.

If farmers vote favorably for the formation of a district, they

choose local supervisors to plan and carry out a soil conservation program based on local needs and desires. As a legally constituted state agency, the district may request assistance from state and federal agencies. All of the Arkansas districts have requested technical assistance from the Soil Conservation Service.

The other states that have organized districts are: Colorado, two districts; Florida, one district; Georgia, four districts; Nevada, three districts; Nebraska, one district; North Carolina, five districts; North Dakota, three districts; South Carolina, four districts; South Dakota, three districts; and Utah, three districts.

District Progress in Arkansas: (as of April 30)

Poteau River-- Conservation surveys completed on 15 farms; 10 farms planned; 1,970 farmers applied for work to be started on their lands.

East Central Arkansas-- Conservation surveys completed on 5 percent of the district area; 16 farms planned; 160 farmers applied for work to be started.

Tri-River-- Conservation surveys completed on 5 percent of area; 38 farms planned; 73 farmers applied for work to be started; 28 cooperative agreements signed.

Greene County-Crowley Ridge-- Conservation surveys 3 percent complete; 40 farms planned; 55 farmers applied for work to be started; 24 agreements signed.

Illinois Bayou-- Conservation surveys 5 percent completed; 15 farms planned; 147 farmers applied for conservation work; 15 agreements signed.

Crooked Creek-- Conservation surveys underway; 15 farms planned; 84 farmers applied for conservation work; 15 agreements drawn up.

Central Valleys-- Conservation surveys started; 2 farms planned.

Lower East Saline-- Conservation surveys 2 percent completed; 15 farms planned; 143 farmers applied for conservation work; 3 agreements taken.

Magazine-- Conservation surveys 10 percent completed; 8 farms planned; 35 farmers applied for work; 8 agreements signed.

Mine Creek-- Conservation surveys 6 percent completed; 14 farms planned; 54 farmers applied for work to be started; 11 agreements entered into.



LOUISIANA HAS BANNER WINTER COVER CROP YEAR

More than 300,000 acres were planted to winter cover crops in Louisiana last fall, an increase of 100,000 acres over the area planted to winter cover in the fall of 1936.

In line with the banner cover crop year throughout the state cooperators with the Soil Conservation Service in the six project and 11 CCC camp areas devoted approximately 18,000 acres to winter cover crops of Vetch, Austrian Winter Peas, Bur Clover and other legumes, this acreage representing, in most cases, a 100 per cent, or more, increase over the area planted to winter cover in 1936.

During a recent tour over the Soil Conservation Service areas in Louisiana it was learned that the cover crop program is being enthusiastically received by cooperators. Almost without exception the cooperators are convinced that, in addition to erosion control, increased yields can be realized from the turning under of the crop green to add organic matter to the soil. Those that have grown winter cover crops more than a year have checked their yields against those realized before winter cover crops were grown, proving to their own satisfaction what they can expect from this practice.

Interviews with farmers in all project and camp areas showed that there is no general wide-spread preference for any one kind of legume-- the preferences varying in the several project and camp areas. There was, however, widespread interest in the use of Bur Clover due to the fact that it reseeds, thereby eliminating the need for the purchase of seed each year. Attacks of anthracnose caused serious damage to Bur Clover in certain areas; however, technicians and farmers attributed this partly to wet weather, and in spite of the damage, plan to plant additional acreage next year. Vetch converts who obtained unusually high yields of green matter tonnage to the acre in the hill sections expressed the belief that the amount of green matter available to be turned under made the purchase of vetch seed each year a profitable investment.

An outstanding example of the possibilities of Bur Clover is found on the farm of Miles McKee in the Keithville area. This farm of 200 acres has become the center of attention of farmers from all parts of Louisiana and East Texas because of its 41-acre field of Bur Clover. This field was considered ready for abandonment several years ago due to advanced sheet erosion, but Mr. McKee planted it solid to Bur Clover. He permits the clover to reseed itself before he turns it under for soil improvement. Last year it was turned under in May and cotton was not planted until June 6. The cotton yield was a bale to the acre. This year there is an excellent stand of clover which has been heavily pastured by cattle and hogs. Sleek, fat hogs attest the forage value of this crop, yet no appreciable impression has been made on the stand.

The following Louisiana Experiment Station tables present a striking picture of increased cotton yields obtained by the turning under of winter cover crops:

Northeast Louisiana Experiment Station  
Calhoun, Louisiana

Cover Crop	Av. Yield Cover Crop lbs. per A.	Av. Yield Cotton, lbs. per A.	Av. Increase Cotton, lbs. per A.	Years test ran
Momantha Vetch	31,157	2,116	1,122	6
Common Vetch	20,857	2,032	1,009	6
Hairy Vetch	20,683	2,079	1,057	8
Hungarian Vetch	22,832	2,099	1,080	7
A. Winter Peas	17,299	1,392	870	8
So. Bur Clover	16,224	1,997	978	7

North Louisiana Experiment Station  
St. Joseph, Louisiana

Cover Crop	Cover Crop Yield, tons	Cotton Fer- tilization	Seed Cotton lbs. per A. 1936	Inc. over check plot	6 yrs. Av. Yld.	6 yrs. Av. inc. over check
Bare, no cover crop		600 lbs. N Soda Super- phos. M. Potash	742	218	1,049	257
Bare, check		300 lbs. Superphos. M. Potash	524	---	792	---
Hairy Vetch	5.68	360 lbs. Superphos. M. Potash (Spring)	615	91	1,036	244
Hairy Vetch	6.69	360 lbs. Superphos. M. Potash (Fall)	569	45	957	165
A. Winter Peas	6.36	360 lbs. Superphos. M. Potash (Summer)	738	214	1,040	248
A. Winter Peas	6.92	360 lbs. Superphos.	744	220	967	175

EARLY SOUTHERN GIANT BUR CLOVER PROMISING WINTER COVER AND  
SOIL IMPROVING CROP.

By

W. M. Nixon,  
Assistant Agronomist.

A legume that has shown much promise for use as a winter cover crop in the Coastal Plains area of Louisiana, Texas, and Arkansas to conserve the soil and as a green manure crop to improve the soil is Early Southern Giant Bur Clover (Medicago arabica).

This early strain has an advantage over the common Southern bur, and California bur clover in that it matures from two to four weeks earlier in the spring. Where a good stand is obtained the clover gives complete ground cover during the winter and early spring. It affords protective cover much earlier than vetch.

Farmers cooperating with the Soil Conservation Service have established seed plots of bur clover ranging from  $\frac{1}{2}$  to 1 acre in size. From an average acre plot enough seed can be secured to seed 15 acres. This is a distinct advantage over other crops in that seed will not have to be purchased each year.

On maturing the seed usually drop to the ground or shatter off when being raked for harvesting.

Giant Southern bur, making a somewhat larger growth than the other bur clovers, produces an abundance of green material. Experiment station results have shown the residual value to be as much as \$18.90 per acre when used as a green manure crop.

Early Southern Giant bur clover is adapted to all well drained Coastal Plains soils, with the possible exception of the deep sands.

To secure a start of Southern Giant bur clover an acre of good fertile soil should be selected for the seed plot. Best results have been obtained where the seeds were planted on the beds or ridge. It is not necessary to break the land. When cotton or corn has been the preceding crop, the middles should be run out throwing the soil toward the ridge before planting. The seed should be planted from August 1 to November 1, using five to ten bushels of seed in the bur per acre. The seed should be mixed thoroughly with barnyard manure, using approximately ten bushels of manure to one bushel of seed. After mixing with manure the seed should be planted on the ridge, dropping a handful every 24 to 30 inches on the ridge.



Before harvesting the seed the old vines should be removed with a rake or harrow. The seed can then be swept with an ordinary house broom, sacked and stored. The plants should be turned under after seed have matured, and allowed to decay for at least two weeks before a new crop is to be planted. It is advisable to always have a seed plot in case that seed do not reseed the following year.

Due to its early maturing qualities, abundance of seed produced, prolific vegetative growth, ability to reseed itself, its value as an erosion control and soil improving crop, it is felt that Early Southern Giant bur clover has wonderful possibilities as a winter cover crop in the Coastal Plains area.

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### STRIP CROPS PREVENT TERRACE DAMAGE

By

H. B. Martin,  
Soil Conservationist.

Strip crops used in connection with terraces proved their worth by preventing excessive damage to terraces during the recent rain of cloudburst proportions which fell in the Coushatta, Louisiana project area.

This was the opinion of Soil Conservation Service technicians from the Coushatta project and the regional office who made an inspection of the area after the rain, which occurred on April 15.

The rainfall varied from 4.4 inches which fell in an hour and 45 minutes in the northern part of the new work area to 9.25 inches which fell during a two hour period in the Ashland area. Cooperators in the area stated that the rain was the heaviest fall ever recorded in this section over such a short period of time. The rain fell on ground saturated by heavy rains which had occurred intermittently during the week preceding, which put a further strain on conservation practices.

In spite of the heavy damage done to farms as a result of this unprecedented rain it was the opinion of observers that the damage would have been even greater on terraced fields if strip crops had not been used. It was estimated that 85 per cent of the terrace breaks occurred where there was no protection by strips and only 15 per cent of the breaks occurred where strip crops were used in addition to terraces. Major terrace breaks occurred on farms where the terraces had only recently been constructed and strips had not yet been planted.

It was the opinion of observers that oat and vetch mixtures in strips provided a denser vegetative mat and afforded more protection than did oats alone or Austrian Winter Peas alone. It was observed that considerable finger washes developed on the back sides of terraces where the entire ridge was not protected by a strip crop and this in turn caused more washing between the terrace intervals than was noted on fields where the water was spread out by the strip crop grown over the entire terrace ridge.

Strip crops proved very effective in reducing terrace breaks which would have occurred due to overtopping. It was noted in several instances that channels silted forcing the water over the terraces, but no break occurred where vetch and oats were grown on the terrace.

The rain also proved the value of winter cover crops inasmuch as there was less washing on fields with cover crops even where the crops had recently been turned under.

This was illustrated by observations on the farm of J. F. White, where two terraced fields were checked after the rain. Strip crops and cover crops were planted on one field and the vetch had recently been turned under. Four terraces overtopped but none broke. Only a few washes were observed in the terrace intervals and very little silt accumulated in the channels. On another field where terraces had just been constructed and no strips or cover crops had been planted there was considerable erosion in the terrace intervals and much silting in the terrace channel. Several terraces in this field overtopped and broke. Mr. White expressed the belief that he could adequately control silting of terrace channels by soil washed between the terrace intervals by planting strips above the terrace channel and strips on the terrace. He was particularly emphatic about desiring the terrace to be completely covered with the strip crop to prevent the weakening of the back side by the formation of finger washes.

All work in the Coughatta area was designed to care for a 10-year frequency and it stood up remarkably well in the face of rain that was undoubtedly a 50 year, or possibly a 100 year, frequency fall.

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## THE PROJECT MONOGRAPH

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Another fiscal year in the history of the Soil Conservation Service is approaching its close. The end of another year will mark the conclusion of another chapter in the project monograph. Some projects will write "finis" to the third chapter; others will close only their second chapters.

With the periodical changes of personnel at the various projects has come the realization that the project monograph, if it is to become a complete record, must be kept up to date--month by month and year by year. Staff technicians who have followed the progress of the work for long periods of time have in their possession many valuable items of observational information developed in the course of the work which will add to the completeness of the monograph. If these men are transferred to new stations before they have incorporated their findings in the monograph the record will lack vital agricultural information.

Demonstrational projects of the type established by the Soil Conservation Service are unique in the field of agriculture, therefore, it is important to agricultural literature that results showing the effectiveness of soil conservation practices be set down for future use.

The monograph is one of the most important reports kept by the Service, inasmuch as it is the only narrative record of project activities and their effect on the community. It is the only report in which personal observations can be recorded. The pages of Field Memorandum No. 516 list in detail all of the topics that should be discussed in the monograph, but it is important to note that these are not limiting topics. Any other pertinent information which the project manager and his staff deem to be of importance to the history of the project can be included.

One particular item comes to mind at the moment. Cost records for the region show that the per acre cost of terracing is being reduced from year to year. But the cost analysis fails to show why and how terracing costs were reduced. The project monograph provides the medium for recording experience items of this kind. It will be of tremendous value to those men who go into districts work. The narrative account of the changes in field procedure brought about by the acquisition of increasingly more practical ideas on how the job could be done best under local conditions undoubtedly will form the basis for the development of new ideas by those working in other areas.



The project monograph is a cooperative enterprise which must be developed and maintained with the contributions from every project staff member and coordinated into a readable document chronologically arranged under the direction of the project manager. Project soils technicians, soil conservationists, agronomists, biologists, engineers, and foresters, in fact all staff members have a definite responsibility in the compilation of the monograph so that all valuable and pertinent information regarding the project will be placed in accessible and usable form. It must be a document which describes the project, its work, its achievements and its mistakes. It must be a summation of five or six years work in the same area. It must show how land use was reorganized, the results obtained, and the methods employed to bring about the change. It should contrast the new land use picture with that which existed before the project was established.

The questions which may be asked by project personnel regarding this compilation logically will be: How can all of this be done and when? The answer is, if you have not already begun, start now. The problem in each project is distinctly an individual one. Rainfall, crops, farmers, and farms differ in their relationships to land use in the various areas of the region. Hence, it is of general importance that specific local conditions be recorded. By a system of coordinated investigation all technicians can secure scientific information which will enhance the value of the monograph.

The monograph serves to crystallize the knowledge gained in five or six years of work in both operations and maintenance. It will set forth a program for future work, backed by information gathered, tested and recorded by the project staff, which will serve as a guide to eliminate non-essentials and to prevent the repetition of useless errors.

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CHIEF TO SPEAK AT THREE MEETINGS IN JUNE

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Dr. H. H. Bennett, Washington, D. C., Chief of the Soil Conservation Service will attend and speak at three meetings to be held in the region next month-- two in Texas and one in Arkansas.

On June 9, Dr. Bennett will attend the third annual field day of the Waldron Project of the Soil Conservation Service sponsored by the Scott County Soil Conservation Association and other interested groups. He will make the principal address.

He will attend the annual field day of the Vernon, Texas, project on June 13. The field day is sponsored by the Adams Creek Soil Conservation Association. Dr. Bennett will make the principal address.

He will be one of the principal speakers for the course, "Conservation of Natural Resources," being offered for six weeks this summer by the North Texas State Teachers College at Denton, Texas. Dr. Bennett will deliver his address, "Introduction to the Study of Water and Soil Conservation," on June 14. The Denton course includes the divisions of Minerals, Water and Soil, Wildlife, Forests, Human Resources and Recreation and Needed Education and Legislation. The course opens June 8 and continues through July 15.

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